USER MANUAL

WWSRF: WIRELESS WHEEL WEIGHING PLATFORMS

WWSRF_03_12.12_EN_U

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1. INTRODUCTION

These wireless platforms are designed for creating weighing stations for large vehicles and axle weighing, and avoid the hassle of connecting cables between the platforms and the indicator. The platforms are ideal for weighing larger vehicles (vans, trucks, tankers, etc..).

⚠ WARNING ⚠

Any attempt to repair or alter the unit can expose the user to the danger of electric shock and it will void our warranty. This instrument is covered under warranty provided that **IT HAS NOT BEEN OPENED BY THE USER** for any reason. If any problem with the unit or system has been experienced please notify the manufacturer or the dealer from which the instrument was acquired.

The 6V rechargeable battery has to be completely recharged (12 hours) in the first installation of the instrument; we RECOMMEND disconnecting the battery if the instrument is not going to be used for more than 30 days.
In order to avoid the deterioration of the rechargeable battery:
In standard conditions:
- never leave the battery partially or completely uncharged; at least once a week recharge it completely.
In case the instrument is not used for a long period, one needs to:
- completely recharge the battery before the system is switched off for the last time;
- recharge completely every 3 months.

Do not pour liquids on the indicator!

Do not use solvents to clean the indicator!

Do not expose instrument to any heat sources!

Always mount the platform in a vibration free setting!

Do not install in an environment with any risk of explosion!

All the connections of the instrument have to be made respecting the rules applicable in the zone and in the installing environment.

Everything not expressly described in this manual has to be considered as improper use of the equipment.

The crossed-out wheeled bin on the product means that at the product end of life, it must be taken to separate collection or to the reseller when a new equivalent type of equipment is purchased. The adequate differentiated refuse collection in having the product recycled, helps to avoid possible negative effects on the environment and health and supports the recycling of the materials of which the equipment is made. The unlawful disposal of the product by the user will entail fines foreseen by the current regulations.

2. MAIN TECHNICAL SPECIFICATIONS

POWER SUPPLY	6Vdc rechargeable battery (6V – 4,5 Ah). NOTE: recharge the battery using only the charger provided.
MAXIMUM POWER	5 VA
OPERATING TEMPERATURE	From -10 to +40 °C (14 to 104 °F) (with even temperature).
DISPLAYED DIVISIONS	10000e, 3X3000e for legal for trade use expandable to 800.000 for internal use (with **minimum** signal coming from the 1,6mV/V cell).
MAXIMUM INPUT SIGNAL	6 mV/V.
MINIMUM VOLTAGE PER DIVISION	0.3 μV (approved instrument); 0.03 μV (non approved instrument).
RESOLUTION IN CALCULATION	1'500'000 points (with signal in input equal to 3mV/V).
KEYBOARD	Water resistant polycarbonate mechanic keys with tactile and acoustic feedback.
TARE FUNCTION	Available on the entire capacity.
AUTO POWER OFF	Programmable from 1 to 255 minutes, or disinserted.
LOW BATTERY WARNING	"Low Batt " will appear on the display.
BATTERY RECHARGE TIME	12 hours.
LOAD CELL POWER SUPPLY	5Vdc ± 5%, 120mA (max 8 cells of 350 Ohms)
LOAD CELL CONNECTIONS	6 wires (CELL1) with Remote Sense , 4 wires (CELL 2, 3, 4) without Remote Sense.

THE PARTS OF THE INSTRUMENT CONTAINING DANGEROUS ELECTRICAL TENSION ARE ISOLATED AND INACCESSIBLE TO THE USER UNLESS IT HAS BEEN DAMAGED, OPENED, OR ALTERED.

3. SYMBOLS

To call the attention of the user, the following symbols are used both in the manual and on the instrument itself:

WARNING! This operation must be performed only by qualified personal.

Conforms to the standards of the European Union.

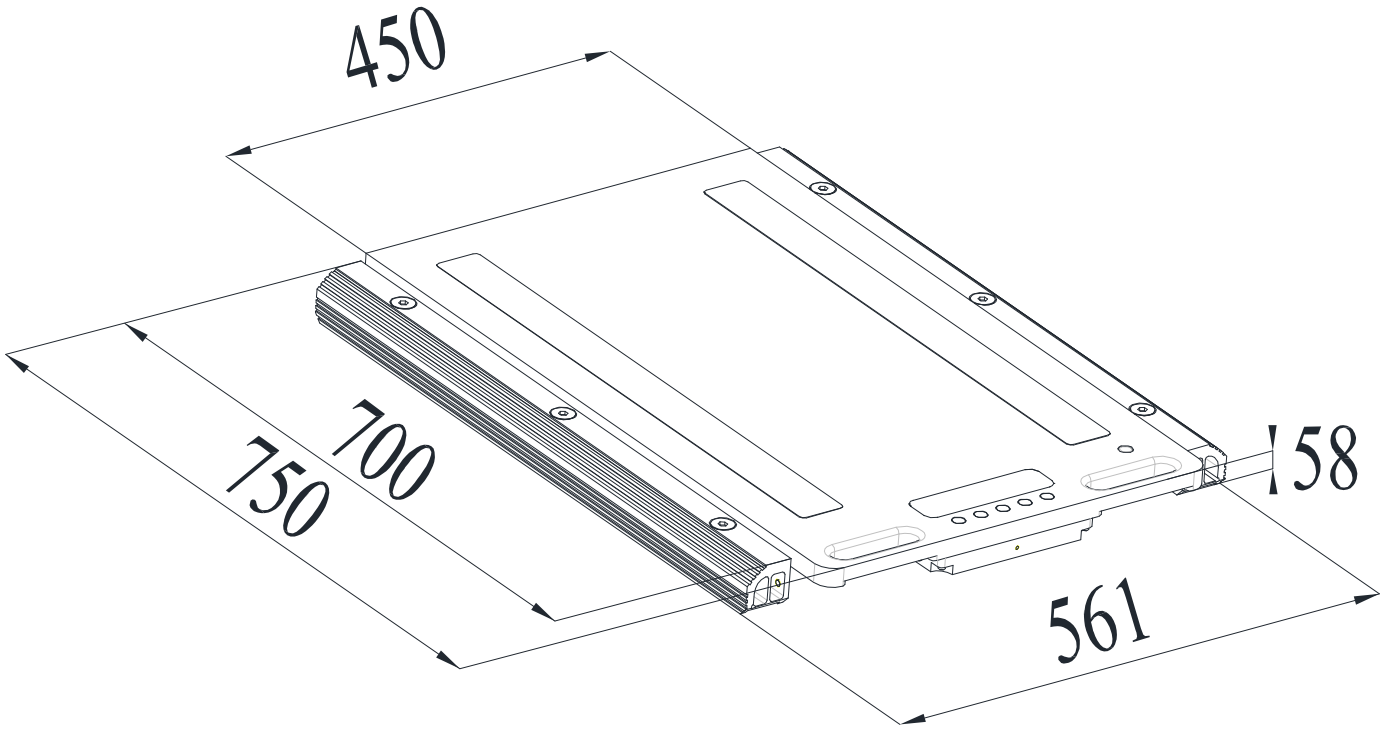
Identifies the Class Of Precision defined by the OIML to represent 3000 divisions.

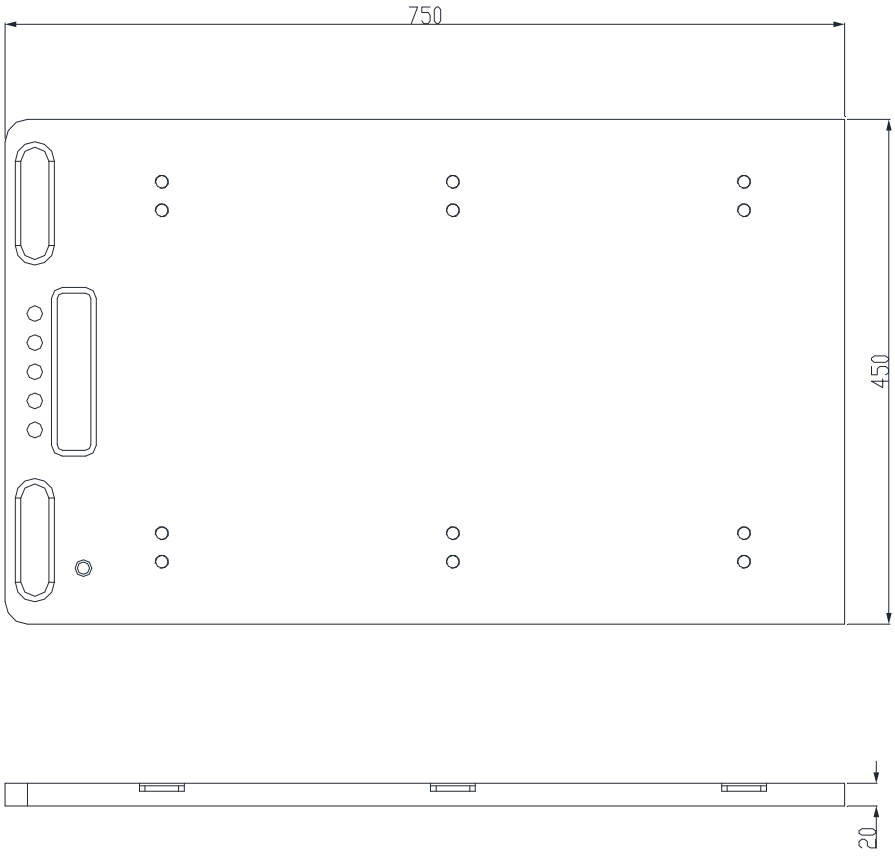
4. INSTALLATION

To recharge the battery of the instrument one has to connect the charger provided to the corresponding input in the lower part of the platform.

In the following two paragraphs the dimensions of the different versions of platforms are shown.

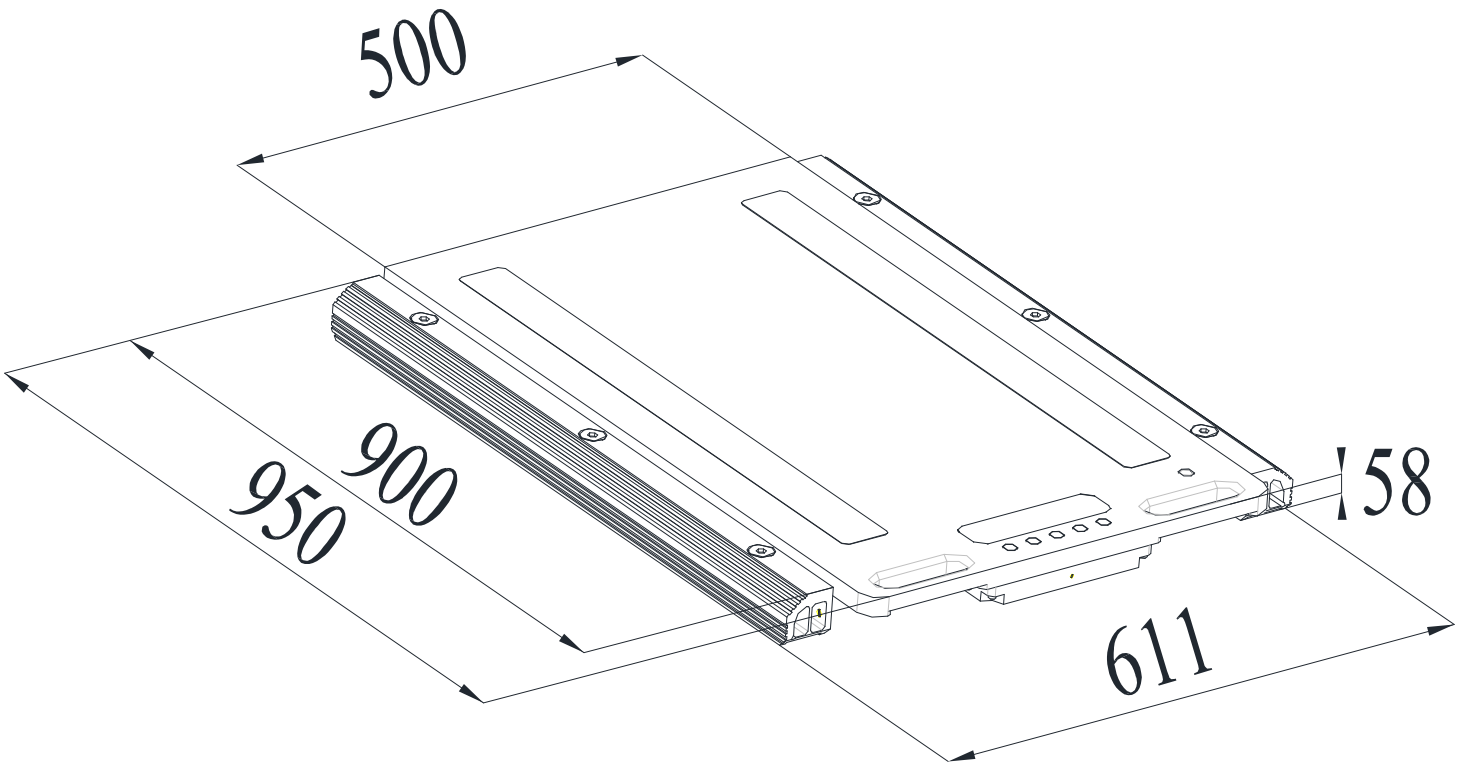
4.1 VERSION WWSERF

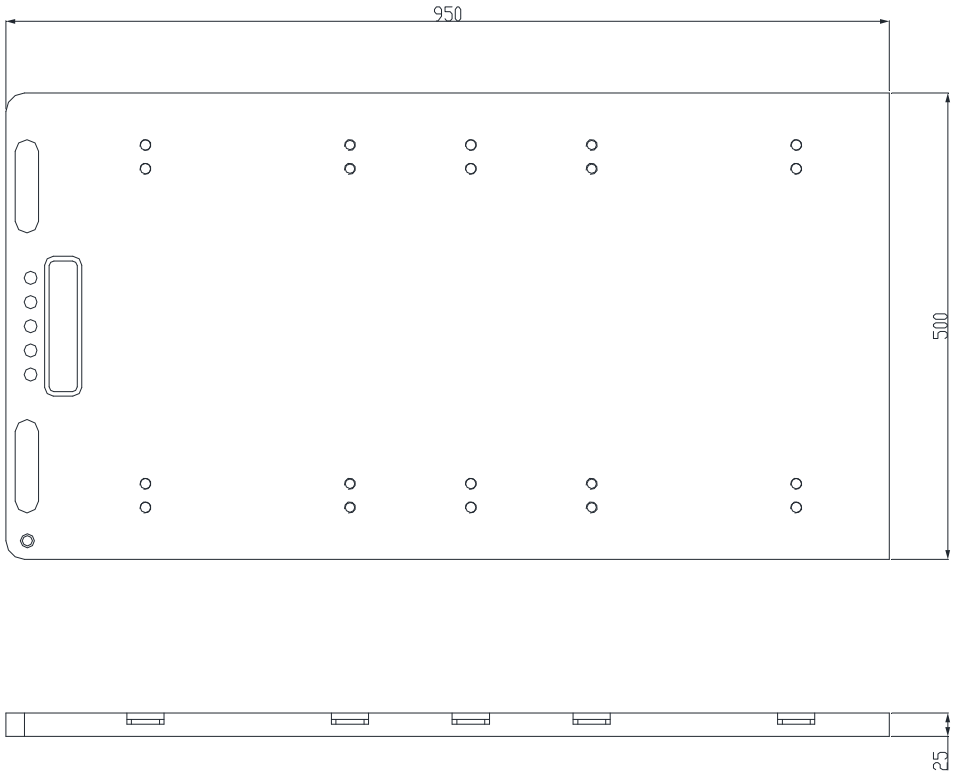




NOTE: All dimensions are in mm.

4.2 VERSION WWSDRF





NOTE: All dimensions are in mm.

5. POWER SUPPLY AND START UP

The instrument is powered through a rechargeable built-in 6Vdc battery.

6V RECHAGEABLE BATTERY FEATURES

Material nickel-metal hydride
Power 4,5 Ah
Output 6 V
THE BATTERY MUST ONLY BE REPLACED WITH AN ORIGINAL FROM THE MANUFACTURER.

In order **TO RECHARGE** the 6V battery insert the plug end of the provided charger into the socket in the lower part of the platform (see the section "INSTALLATION") and the charger in the mains. Safety norms must be respected for the connection to the mains voltage including the use of a line which has to be free from noise generated by other electronic equipment.

Do not connect other equipment to the same socket as the one that the charger is in.
Do not step on or crush the power supply cable.

TO TURN ON the instrument press the **C** key until the indicator turns on; then release.
The display shows:
XX.YY is the installed software version.
The instrument turns on all the display segments and symbols
MAX XXX.XXX capacity of the scale
bt XXX in which XXX is a number from 0 to 100 which indicates the battery level.

The indicator has an "auto zero at start-up" function: in other words it means that if at start-up a weight within +/- 10% of the capacity is detected, it will be zeroed; if the weight is not within this tolerance, with a non approved instrument the display shows the present weight after a few instants, while with an approved instrument "ZEro" is shown continuously on the display, until the weight does not re-enter within this tolerance; the auto zero function at start-up may be disabled in the set-up environment (only with non approved instrument); see **SEtuP** >> **ConFiG** >> **PArAM** >> **Auto-0** parameter **(TECH.MAN.REF.)**.

By pressing the **ZERO** key for an instant while the version is shown in the display, the indicator will show the following in this order:

XX.YY	in which XX indicates the instrument type, YY indicates the metrological software version.
XX.YY.ZZ	is the installed software version.
XXXXXX	is the name of the installed software.
bt XXX	in which XXX is a number from 0 to 100 which indicates the battery level.
-K- X.YY	in which K identifies the type of keyboard: K=0 5-key keyboard. X.YY is the installed software version.

After this, it shows the programmed capacity and the minimum division, "hi rES" (in case of NOT approved instrument) or "LEGAL" (in case of approved instrument), the g gravity value, and finally it executes a countdown (self-check).

TO RESTART the instrument keep the **C** key pressed for 8 seconds long: the indicator will turn off, then release the key and the indicator will automatically turn on.

TO TURN OFF the instrument keep the **C** key pressed until the "- oFF–" message appears on the display; then release the key.

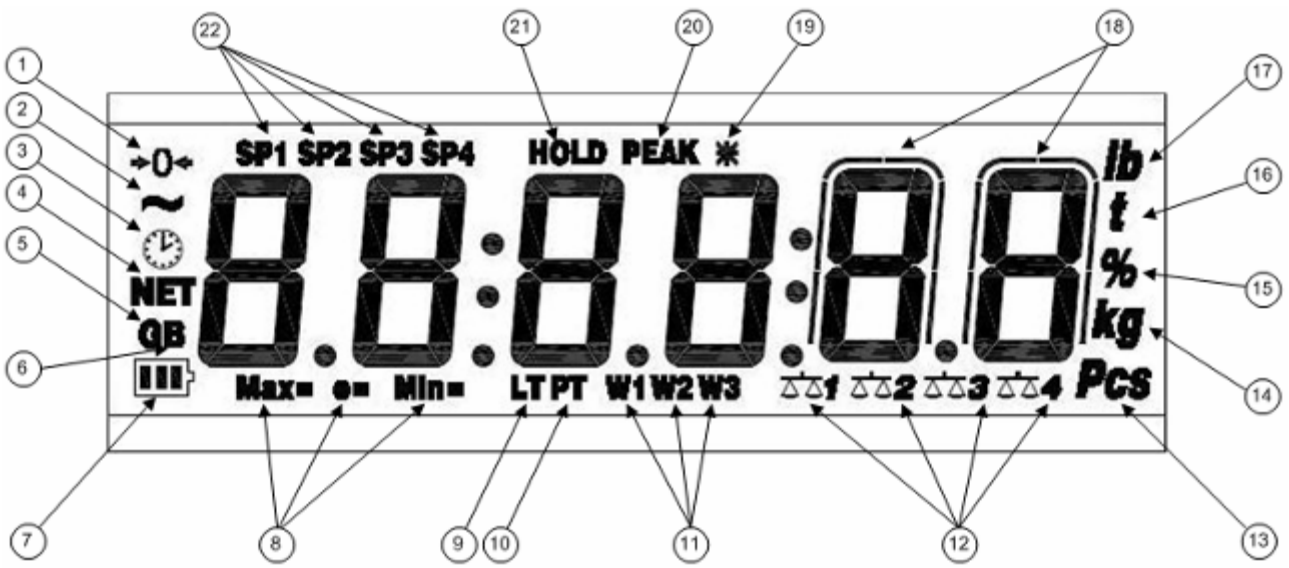
6. FRONT PANEL KEYS

The front panel of the indicator is designed for quick and simple weighing applications. It consists of a display with 6 digits, 25 mm in height and a 5-key water-proof film keyboard.
While weighing, various multifunction symbols indicating the functioning status will turn on (see section “SYMBOLS ON THE DISPLAY”).

SCALE KEY	FUNCTION
ZERO	- Zeros the displayed gross weight, if it is within +/- 2% of the total capacity. - Cancels the negative tare value. - When entering numbers it decreases the digit to be modified. - It allows scrolling ahead inside the menu steps or in the parameters within a step.
TARE	- If pressed for an instant it carries out the semiautomatic tare. - If pressed at length it allows entering the manual tare from keyboard. - Cancels the negative tare value. - In the numeric input phase it increases the digit to be modified. - It allows scrolling backwards in the menu steps or in the parameters within a step.
MODE	- It carries out a specific function of the operating mode set in the set-up environment. - In the numeric input phase it selects the digit to be modified, from left to right.
ENTER / PRINT	- It carries out a specific function of the operating mode set in the set-up environment. - In the numeric input phase, it confirms the entry made. - In the SET-UP, it allows to enter a step or to confirm a parameter within a step. - It transmits the data from the serial port dedicated to the printer.
C / i	- It turns the instrument on and off. - In the numeric input phase, it quickly zeros the present value. - In the SET-UP, it allows to exit a step without confirming the change made in the indicator: - Allows viewing the scale’s metric information: capacity, division, minimum weigh for each configured range.

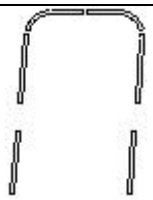
7. SYMBOLS ON THE DISPLAY

The LCD display has symbols which show the indicator's functioning status; you will find the description for each symbol below.



DISPLAY

NUMBER	SYMBOL	FUNCTION
(1)	→0←	The weight detected on the weighing system is near zero, within the interval of –1/4 ÷ +1/4 of the division.
(2)	~	The weight is unstable.
(3)		Not managed.
(4)	NET	The displayed weight is a net weight.
(5)	G	The displayed value is a gross weight, if the Italian or English language is selected in the print configuration.
(6)	B	The displayed value is a gross weight, if the German, French or Spanish language is selected in the print configuration.
(7)		Indicates the battery charge level: see the section "LOW BATTERY WARNING".
(8)	MAX= MIN= e=	When viewing the metric information, it identifies the indicated capacity range. When viewing the metric information, it identifies the indicated minimum weigh range. When viewing the metric information, it identifies the indicated division range
(9)	LT	The locked tare is enabled.
(10)	PT	The manual tare is active.
(11)	W1 W2 W3	The instrument is in the first weighing range. Not managed. Not managed.
(12)	1 2 3 4	Scale nr. 1 is always shown.
(13)	PCS	Not managed.

(14)	**kg**	Indicates the unit of measure in use ("kg" for kilogram, "g" for gram).
(15)	**%**	Not managed.
(16)	**t**	Indicates the unit of measure in use (tons).
(17)	**LB**	Indicates the unit of measure in use (pounds).
(18)		Not managed.
(19)	*****	Indicates that a key has been pressed.
(20)	**PEAK**	Not managed.
(21)	**HOLD**	Not managed.
(22)	**SP1** **SP2** **SP3** **SP4**	Not managed. Not managed. Not managed. Not managed

8. BASIC FUNCTIONS

8.1 ZERO SCALE

By pressing the ZERO key, it is possible to zero a gross weight value which is within +/- 2% of the capacity; after the zeroing, the display shows 0 weight and the relative pilot lights are turned on.

8.2 TARE OPERATIONS

SEMI-AUTOMATIC TARE

By pressing the **TARE** key any weight value present on the display is put in tare: the display shows "tArE" for an instant and then 0 (net weight); the pilot lights turn on.

NOTE: The semiautomatic tare will be acquire only if the weight is AT LEAST A DIVISION, STABLE (instability **~** led off) and VALID (in other words, the OVERLOAD condition must not be created).

ENTERING THE MANUAL TARE FROM KEYBOARD

Press TARE for a few seconds: the display shows "– tM –" and then *"000000"*. Enter the desired value using the following keys:

ZERO decreases the blinking digit.
TARE increases the blinking digit.
MODE selects the digit to be modified (blinking); the scrolling of the digits takes place from left to right.
C if pressed for an instant it quickly zeros the present value; if pressed at length it allows to return to weighing without saving the changes made.

Confirm with the ENTER/PRINT key; the value will be subtracted from the weight present on the plate and the relative pilot lights will turn on.

CANCELLING A TARE

One can manually cancel the tare value in different ways:
- unload the scale and press the **TARE** or **ZERO** key.
- carry out the tares in subtraction, partially unloading the scale and, and press **TARE** to zero the display.
- press C without unloading the scale.

- enter a manual tare equal to 0.

NOTE: it is possible to automatically cancel the tare value; see the following section.

LOCKED/UNLOCKED/DISABLED TARE SELECTION

Normally, when a tare value is entered (automatic or manual) by unloading the scale plate, the display shows the tare value with a negative sign (LOCKED TARE). For one's convenience it is also possible to choose that the tare value cancels itself automatically each time that the scale is unloaded (UNLOCKED TARE); or disable the tare functions.

With the UNLOCKED tare:

In case of SEMIAUTOMATIC TARE the net weight, before unloading the scale, may also be 0.

In case of MANUAL TARE the net weight before unloading the scale must be greater than 2 divisions and stable.

To set the type of tare:

- Turn on the indicator, press the TARE while the firmware version is displayed (the display shows the "tyPE" menu).
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "F.ModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "tArE" parameter.
- With the ZERO or TARE keys select the possible options: "LoCK" (locked tare), "unLoCK" (unlocked tare), "diSAb" (disabled tare).
- Confirm with ENTER/PRINT.
- Press the C key many times until the display shows the message "SAVE?".
- Press ENTER/PRINT to confirm the changes made or another key for not saving.

8.3 LIMITATION OF THE TARE FUNCTIONS

With approved instrument, it is possible to limit the tare functions, by setting "yES" in the step **SEtuP >> d.SALE (TECH.MAN.REF.)**. The tare operations will have the following specifications:

SCALE CAPACITY	FUNCTIONING	
	SEtuP >> d.SALE >> rEM.dSP >> no (no remote display for the visualization of the tare)	**SEtuP >> d.SALE >> rEM.dSP >> yES** (remote display for the visualization of the tare)
< 100kg	All the tare functions are disabled.	- The SEMIAUTOMATIC TARE value can not be modified with a manual tare. - The manual tare can be entered or modified only with an UNLOADED scale and tare equal to zero. - It's possible to cancel the tare value only with an UNLOADED scale, by pressing the ZERO key or by entering a manual tare equal to zero.
≥ 100kg	- The SEMIAUTOMATIC TARE value can not be modified with a manual tare. - The manual tare can be entered or modified only with an UNLOADED scale and tare equal to zero. - It's possible to cancel the tare value only with an UNLOADED scale, by pressing the ZERO key key or by entering a manual tare equal to zero.	- The SEMIAUTOMATIC TARE value can not be modified with a manual tare. - The manual tare can be entered or modified only with an UNLOADED scale and tare equal to zero. - It's possible to cancel the tare value only with an UNLOADED scale, by pressing the ZERO key or by entering a manual tare equal to zero.

With approved instrument, the **d.SALE** and **rEM.dSP** steps are read-only.

8.4 AUTO POWER OFF FUNCTION

It is possible to automatically turn off the indicator (from 1 to 255 minutes), or disable it; the auto power off takes place when, **with unloaded scale,** the weight has not been moved or a key has not been pressed for the time set: the display shows the "- oFF – " blinking message and an acoustic signal is emitted; after this the indicator turns off.
For the setting, follow the procedures below:

- Turn on the scale, press the TARE key while the firmware version is displayed (the display shows the "tyPE" menu).
- Press ZERO many times (to scroll ahead through the parameters) or TARE (to scroll backwards) until one finds the "F.ModE" parameter.
- Press ENTER/PRINT to enter the menu.
- Scroll until one finds the "En.SAVE" parameter and select it.
- Scroll until one finds the "AutoFF" parameter and select it.
- With the ZERO or TARE keys select the possible options: "diSAb" (auto switch-off disabled), "EnAb" (auto switch-off enabled).
- Confirm with ENTER/PRINT; if "EnAb" has been selected, one will be asked to enter the number of minutes after which the indicator should turn off: enter a number between 1 and 255 (using the MODE key to select the digit to be modified and ZERO/TARE to decrease/increase it) and confirm with ENTER/PRINT.
- Press many times the C key until the display shows "SAVE?".
- Press ENTER/PRINT to confirm the changes made or another key for not saving.

8.5 LOW BATTERY WARNING

The charge level is shown in the weighing phase through the battery symbol:

- : battery is charged.
- : battery is partially charged.
- : battery is discharged: connect the indicator to the mains in order to recharge the battery (if supplied) or replace it.

Furthermore, for a few seconds the "Low.bat " message appears on the display (minimum level voltage).

When recharging the battery (if supplied), the indicator shows the recharging phase below:

RECHARGING PHASE: …

RECHARGE IS COMPLETED:

NOTES:

- In a system that consists of a DFWKRPRF connected to the WWSRF platforms, the level of the battery of the platforms is displayed on the DFWKRPRF through the message "ChX.btY", in which X is the number of the channel and Y is the number of notches of the battery symbol. The message is displayed when there is a variation of a notch in the battery symbol of one platform and this level is maintained for at least three minutes.
- While recharging, the instrument can be used as usual.
- The instrument automatically turns off when the voltage goes below the minimum level.
- It's possible to view the recharge percentile of the battery by pressing the **ZERO** key upon start-up (see the section "POWER SUPPLY AND START-UP").

8.6 DISPLAY OF METRIC DATA (inFO)

The indicator is fitted with a function named "INFO", thanks to which it is possible to view the configuration metric data:
- keep the **C** key pressed until the display shows "inFo", and release, or:
- press the keys **MODE + C** keys in sequence.

- The capacity value will appear.
- Press the ZERO key to scroll the following data, in this order:
  Capacity ⇨ Minimum weigh ⇨ Division ⇨
- Press the TARE key to scroll backwards the metric data.
- Press the C key to return to weighing.

NOTE:
The minimum weigh corresponds to 20 net weight divisions.

8.7 LOCK /UNLOCK KEYBOARD

It is possible to enable/disable the keyboard by setting the corresponding parameter in the **F.ModE >> LCk.kEy** step of the setup environment **(TECH.MAN.T.)**; if the "on" parameter is selected in this step, after 15 seconds of keyboard inactivity in the weighing phase, the keyboard is locked (the "LoC.kEy" message is displayed).
In this case it's only possible to turn off the instrument by pressing the C key for about 10 seconds, and turn on the instrument.
By pressing the ZERO and PRINT keys in succession, the keyboard is unlocked (the "unL.kEy" message is displayed).
If a different key is pressed, the message "PrESS ZEro to unLoCk" is displayed; when the ZERO key is pressed, the message "noW PrESS Print to unLoCk" is displayed.

9. INSTRUMENT MESSAGES WHILE IN USE

MESSAGE	DESCRIPTION
ZEro	The scale is zeroing the weight.
Er.Mot	Unstable weight during the calibration.
PrEC.	It is displayed if one tries to calibrate the zero point without first having confirmed the number of calibration points.
ErPnt	During the acquisition of a calibration point a null value has been read by the converter.
Er – 11	Calibration error: a too small sample weight has been used; it is advisable to use a weight equal to at least half of the scale capacity.
Er – 12	Calibration error: the acquired calibration point (tP1 o tP2 o tP3) is equal to the zero point (tP0).
Er – 37	The number of converter points per scale division is less than two. Carry out again the calibration with special attention to the capacity and the division.
Er – 39	It is displayed when the instrument has not yet been calibrated and initialized. Press the **TARE** key when the instrument displays "Er – 39" to enter the technical set-up environment. Carry out the initialization of the indicator ("dEFAu" parameter) and the selection of the type of keyboard ("kEyb" parameter) and finally the programming of all the parameters of the set-up environment and the calibration.
undEr (blinking)	The weight in underload (i.e. a weight of 100 divisions below the gross zero, if the instrument is approved) is notified through this message (alternated to - - - -) and by an acoustic signal.
oVEr (blinking)	The weight in overload (i.e. a weight of 9 divisions greater than the capacity) is notified through this message (alternated to - - - -) and by an acoustic signal.
r.AdCX	It confirms that the WWSRF platform corresponding to the X channel is connected to the DFWKRPRF.

DECLARATION OF CONFORMITY

This device conforms to the essential standards and norms relative to the applicable European regulations. The Declaration of Conformity is available in the web site www.diniargeo.com

WARRANTY

The TWO YEARS warranty period begins on the day the instrument is delivered. It includes spare parts and labour repair at no charge if the INSTRUMENT IS RETURNED prepaid to the DEALER'S PLACE OF BUSINESS. Warranty covers all defects NOT attributable to the Customer (such as improper use) and NOT caused during transport.

If on site service is requested (or necessary), for any reason, where the instrument is used, the Customer will pay for all of the service technician's costs: travel time and expenses plus room and board (if any).

The Customer pays for the transport costs (both ways), if the instrument is shipped to DEALER or manufacturer for repair.

The WARRANTY is VOIDED if any of the following occurs: repairs or attempted repairs are made by unauthorised personnel, connected to equipment installed by others, or is incorrectly connected to the power supply, or instrument has defects or damage due to carelessness or failure to follow the guidelines in this instruction manual.

This warranty DOES NOT provide for any compensation for losses or damages incurred by the Customer due to complete or partial failure of instruments, even during the warranty period.

AUTHORIZED SERVICE CENTRE STAMP